

Claims 1 and 5-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fratta (U.S. Patent No. 4,924,130). Applicants respectfully traverse this rejection. Specifically, Applicants submit that the width of the magnetic path as recited in the claims of the application is neither taught nor suggested by Fratta.

Claim 1 recites a “width of an effective magnetic path between the outer periphery of the rotor and the outer side slot is defined based on a width of a stator magnetic pole portion multiplied by a predetermined number in a range of 0.7 to 1.3.” The Examiner acknowledges that Fratta differs from the present invention in that Fratta does not teach that the “predetermined number” defining the ratio between the rotor magnetic path and the stator pole widths is between 0.7 and 1.3. However, the Examiner argues that this range for the ratio would have been an obvious design choice. Applicants respectfully submit that this range is not an obvious design choice.

Fratta shows an existence of member B in an interpolar space for practical reasons of structure and of manufacture. However, Fratta does not disclose or suggest improving the synchronous reluctance machine’s torque characteristic by modifying the width of B (magnetic path). As such, Fratta in no way suggests this claimed feature.

With regards to the present invention, shown in solid line 1 in Figure 6 ($WR1/WS = 0.55$ corresponding to out of the range of 0.7 and 1.3), torque decreases in the range of a rotor rotating angle (x-axis) from 9 to 13.5 degrees. However, the other lines 2, 3, 4, and 5 ($WR1/WS = 0.72, 0.9, 1.07, \text{ and } 1.24$ corresponding to in the range of 0.7 and 1.3) show minimum decrease in the range from 9 to 13.5 degrees. This means that the definition of the range 0.7 and 1.3 has a critical advantage in comparison to the other ranges of width of the magnetic path. As such,

Response under 37 C.F.R. § 1.116
U.S. Application No. 10/091,528

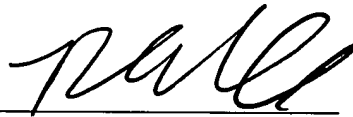
Atty. Docket No. Q68862

Applicants submit that the claims are allowable and request that the application be passed to issue as soon as possible.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Ronald Kimble
Registration No. 44,186

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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Date: April 2, 2004